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FORMULA INDEX

The following index of new compounds of known empirical formula is arranged according to Richter's system.

The elements are given in the order C, H, O, N, Cl, Br, I, F, S

and P, and the remainder alphabetically.

The compounds are arranged in groups according to the number of carbon atoms (thus C₁ group, C₂ group, etc.); according to the number of other elements besides carbon contained in the molecule (thus C₅ IV indicates that the molecule contains five carbon atoms and four other elements); according to the nature of the elements present in the molecule (given in the above order); and according to the number of atoms of each single element (except carbon) present in the molecule.

Salts are placed with the compounds from which they are derived. The chlorides, bromides, iodides and cyanides of quaternary ammonium bases, however, are registered as group sub-

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C\$EL1514	Triethylamine, hydroiodide mercuric iodide (Wood-ward and Alsberg) 1921, 46, 5

C₆III C₆H₆O₂N₂ 2, 6-Dioxy-5-methylpyrimidine-4-aldehyde (thymine-

	4-aldehyde) (Johnson and Cretc	HER)
	• • •	1916, 26, 112
C ₆ H ₇ O ₃ N ₈	2, 6-Dioxy-5-methylpyrimidine-	4-aldehyde oxime
	(Johnson and Cretcher)	1916, 26, 112
C.H.O.N.	Proline hydantoin (DAKIN)	1920, 44, 527

C ₆ H ₈ O ₃ N ₂	γ-Hydroxyproline hydantoin (Dakin)					
$C_6H_9O_2N_2$	1920, 44, 518 Deaminocarnosine (Baumann and Ingvaldsen)					
C ₆ H ₁₂ O ₁₆ P ₄	Phosphoric inosite ester (Anderson)					
C ₆ H ₁₃ O ₅ N	1920, 43, 126 Dextro-d-ribohexosaminic acid (Levene and Clark)					
	Epichitosamine, hydrochloride, osazone (Levene)					
	1919, 39,69 Levo-d-ribohexosaminic acid (Levene and Clark)					
	1921, 46 , 26 Lyxohexosamine, hydrochloride (Levene)					
$C_6H_{13}O_6N$	Epichitosaminic acid (Levene) 1916, 26 , 161 1918, 36 , 79 d-Levoxylohexosaminic acid (Levene) 1918, 36 , 79					
$C_6H_{18}O_{24}P_6$	1918, 36, 86 Inosite hexaphosphoric acid, barium and silver salt (Anderson) 1920, 44, 436					
	C ₆ IV					
	2-Thio-5-methyl-6-oxypyrimidine-4-aldehyde (2-thio-thymine aldehyde) (Johnson and Cretcher)					
	1916, 26 , 109 2-Thio-5-methyl-6-oxypyrimidine-4-aldehyde oxime (Johnson and Cretcher) 1916, 26 , 109					
C ₆ H ₁₀ O ₃ NI	β-Iodopropionylalanine (BAUMANN and INGVALD-					
C ₄ H ₁₂ O ₅ NC						
	chloride (Levene and Clark) 1921, 46 , 29 Dextro-d-xylohexosamininic acid lactone hydro-					
	chloride (Levene) 1918, 36 , 85					
	Epichitosaminic acid lactone hydrochloride (Levene) 1918, 36 , 77					
	Levo-d-ribohexosaminic acid lactone hydrochloride (Levene and Clark) 1921, 46, 27					
C ₇ Group						
	C ₇ II					
C ₇ H ₁₂ O ₆ A	Anhydrosedoheptose (LA Forge and Hudson)					
C ₇ H ₁₄ O ₂ 5	5-Methylhexylic acid (Levene and Allen)					
	α-d-Guloheptose (LA Forge) 1916, 27, 442 1920, 41, 253					
•	d-Mannoketoheptose (LA Forge) 1916–1917, 28, 518					

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C 7H15I 5-M	ethylhexyl iod	lide (Levene an	d Allen)	1916, 27, 44 6
C 7H16O 5-1	Methylhexyl al	cohol (Levene	and Allen	1)
C TT O	Culabandidal	T . To)		1916, 27, 443
	Guloheptitol (Guloheptitol (1920, 41, 25 5 1920, 41, 256
α-	Sedoheptitol (La Forge and I		191 7, 30, 68
		C 7 111		
C7H15ON 5	-Methylhexyli	c amide (Leven	E and AL	LEN)
				1916, 27, 442
C 7H15O 7N	Chondrosamin	oheptonic acid,		t (LEVENE) 1916, 26, 152
$C_7H_{15}O_9P$	α-Methylgluco	sidophosphoric	acid (I	EVENE and
	MEYER)			1921, 48, 235
•		C ₈ Group		
		C ₈ II		
C ₈ H ₁₆ O ₂ 6-	Methylheptyli	c acid (Levene	and ALLE	4)
OT 0 03	#-4b-3b4-1 -	11-1 /T		1916, 27, 452
C ₈ H ₁₇ U 0-1	zetnymeptym	lcohol (Levene		^N) 1916, 27, 452
		C ₈ III		-
C ₈ H ₁₇ ON 6	-Methylhepty	lic amide (Leven	ve and AL	LEN)
				1916, 27, 452
		C ₈ IV.		
C ₂ H ₁₀ O ₂ N ₂ S	2-Ethylmerc	apto-5-methyl-6-	oxypyrim	idine-4-alde-
h	yde (Johnson	and CRETCHER)		1916, 26, 111
C ₈ H ₁₁ O ₂ N ₈ S		apto-5-methyl-6- onson and Cre	-oxypyrim rcher)	idine-4-alde-
-	,, do 0111110 (0 0	and the case		1916, 26, 111
		C ₈ V		•
C ₈ H ₇ O ₁₀ N ₂ A	sHg 3, 5-Di	nitro-4-hydroxyp	henylarsii	nic acid mer-
c	uric acetate (1	Raiziss, Kolmei		
C.H.O.NAsl	Hg 3-Nitro-4	-hydroxyphenyla		1919, 40, 5 37 id mercuric
		s, Kolmer, and		140104110
	Tra 9 NT:4	ngonilio o did		1919, 40, 536
USEL 9U 7172A!	Kolmer, and (rsanilic acid mer Favron)		ate (KAIZISS, 1919, 40, 535
-		,	,	,,,

C₈H₁₀O₆NAsHg 3-Amino-4-hydroxyphenylarsinic acid mercuric acetate (RAIZISS, KOLMER, and GAVRON)

1919, **40,** 537

C₈H₁₁O₆N₂AsHg 3, 5-Diamino-4-hydroxyphenylarsinic acid mercuric acetate (Raiziss, Kolmer, and Gavron)

1919, 40, 538

C₈ VI

C₈H₉O₅NBrAsHg 3-Bromoarsanilic acid mercuric acetate (Rarziss, Kolmer, and Gavron) 1919, **40**, 541

C₉ Group

CoII

C₉H₁₆O₄ 4-Methylpentylmalonic acid (Levene and Allen) 1916, 27, 451

C₉H₁₈O₂ Ethyl 5-methylhexylate (Levene and Allen)
1916, 27, 442
7-Methyloctylic acid (Levene and Allen)

1916, 27, 447

C₉H₁₉O₆ 3,5,6-Trimethylglucose (Levene and Meyer) 1921, **48**, 244

C₉H₁₉I 7-Methyloctyl iodide (Levene and Allen)

1916, 27, 448

C₉H₂₀O 7-Methyloctyl alcohol (Levene and Allen) 1916, 27, 448

C, III

C₉H₁₈O₉P 1,2-Monoacetonephosphoric acid glucoside (Levene and Meyer) 1921, **48**, 238 C₉H₁₉ON 7-Methyloctylic amide (Levene and Allen)

1916, 27, 447

C_o IV

C₉H₉O₇AsHg 4-Carboxyphenylarsinic acid mercuric acetate (p-Benzarsinic acid mercuric acetate) (RAIZISS, KOL-MER, and GAVRON) 1919, 40, 539

C₉H₁₄O₈N₃P Cytidinephosphoric acid, brucine and barium salts (Levene) 1919, 39, 77

C₂H₁₄O₂N₂P Urindinphosphoric acid, ammonium, barium, brucine and lead salts (Levene) 1918, 33, 233; 1919, 40, 395; 1920, 41, 1

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C10 Group

C₁₀ I

C₁₀H₂₂ 2-Butylhexane (Levene and Cretcher) 1918, 33, 510

Cio II

C₁₀H₁₆O Oil isolated from urine (Anderson)
1916, 26, 395, 401, 409
C₁₀H₁₈O₄ 5-Methylhexylmalonic acid (Levene and Allen)
1916, 27, 446
C₁₀H₂₀O₂ 2-Butylhexylic acid (Levene and Cretcher)
1918, 33, 508
Ethyl 6-methylheptylate (Levene and Allen)
1916, 27, 452
8-Methylnonylic acid (Levene and Allen)
1916, 27, 454
C₂-H₂O₂ 3 5 6-Trimethyl methylglucoside (Levene and Meyer)

C₁₀H₂₁O₆ 3,5,6-Trimethyl methylglucoside (Levene and Meyer) 1921, **48**, 244 C₁₀H₂₁I 2-Butylhexyl iodide (Levene and Cretcher)

1918, **33**, 509 C₁₀H₂₂O 2-Butylhexyl alcohol (Levene and Cretcher) 1918, **33**, 509

C₁₀ III

 $C_{10}H_{10}O_2N_2$ d-α-Phenylmethylhydantoin (West) $C_{10}H_{12}O_3N_2$ d-α-Phenylureidopropionic acid (West) $C_{10}H_{14}O_3N_2$ Hydroxyprolylproline anhydride (Dakin) $C_{10}H_{14}O_3N_5$ Guanylic acid, brucine salt (Levene) $C_{10}H_{14}O_3P$ 3,5,6-Trimethyl-2-phosphoric acid methyl glucoside (Levene and Meyer) 1921, 48, 245

C10 IV

C₁₀H₁₆O₃N₂S 2-Thio-4-diethyoxymethyl-5-methyl-6-oxypyrimidine (Johnson and Cretcher) 1916, 26, 108 C₁₀H₁₇O₁₂N₃P₂ Hexocytidindiphosphoric acid, barium and brucine salts (Levene) 1921, 48, 123

C₁₀ VI

C₁₀H₉O₈NBrAsHg 3-Bromooxalylarsanilic acid mercuric acetate (Raiziss, Kolmer, and Gavron) 1919, 40, 541

C₁₁ Group

C₁₁ II

C₁₁H₂₀O₄ Dibutylmalonic acid (Levene and Cretcher)

1918, 33, 507

C₁₁H₂₀O₅ Ethyl α-methyl-γ,γ-diethoxyacetoacetate (Johnson and Cretcher)
 6-Methylheptylmalonic acid (Levene and Allen)

1916, **27,** 453

C₁₁H₂₂O₂ Ethyl 7-methyloctylate (Levene and Allen) 1916, 27, 447

·C11 III

C₁₁H₁₀O₅N₂ Antiphenylhydantoinhydroxyacetic acid (Dakin)
1921, **48**, 287
Paraphenylhydantoinhydroxyacetic acid (Dakin)

1921, 48, 284

C₁₁H₁₀ON₃ Oil from urine, semicarbazone (Anderson)

1916, **26,** 393, 401

C₁₁ IV

C₁₁H₁₀O₃NI₃ Thyroxin, ammonium, barium, calcium, copper, magnesium, nickel, potassium and zinc salts, hydrochloride and sulfate (KENDALL and OSTERBERG)

1919, 40, 314

C₁₁H₁₈O₁₃N₂P₂ Hexothymidindiphosphoric acid, barium and brucine salts (Levene) 1921, 48, 123

C₁₂ Group

C₁₂ II

C₁₂H₂₂O₄ 7-Methyloctylmalonic acid (Levene and Allen) 1916, 27, 449

C₁₂H₂₂O₆ 3,5,6-Trimethyl-1,2-acetoneglucose (Levene and Meyer) 1921, **48**, 243

C₁₂H₂₄O₂ 4-Butyloctylic acid (Levene and Cretcher)

1918, **33**, 511

Ethyl 2-butylhexylate (Levene and Cretcher)

1918, 33, 508

C₁₂H₂₅I 4-Butyloctyl iodide (Levene and Cretcher)

1918, 33, 511

C₁₂H₂₆O 4-Butyloctyl alcohol (Levene and Cretcher)

1918, 33, 511

C₁₂ III

C₁₂H₁₁O₂N₃ 2,6-Dioxy-5-methylpyrimidine-4-aldehyde anil (Jониson and Creтснев) 1916, 26, 113

C₁₂H₁₄O₄N₂ Hippuryl-β-alanine (Baumann and Ingvaldsen) 1918, 35, 276

C₁₂H₁₇O₂N 3-Methylbutyl phenylurethane (Levene and Allen) 1916, 27, 440

C₁₂H₂₁O₂P 1,2,3,5-Diacetone-6-phosphoric acid glucoside (LE-VENE and MEYER) 1921, **48**, 237

C₁₂ IV

C₁₂H₁₁ON₃S 2-Thio-5-methyl-6-oxypyrimidine-4-aldehyde anil (Johnson and Cretcher) 1916, **26**, 110

C₁₂H₁₁O₃N₂I₃ Thyroxin ureide (Kendall and Osterberg)

1919, 40, 327 C₁₂H₂₁O₂N₂S 2-Ethylmercapto-4-diethoxymethyl-5-methyl-6-oxypyrimidine (Johnson and Cretcher)

1916, 26, 110

C12 V

C₁₂H₁₆O₈N₂AsHg Diacetyl-3,5-diamino-4-hydroxyphenylarsinic acid mercuric acetate (RAIZISS, KOLMER, and GAVRON) 1919, **40**, 540

C₁₃ Group

C₁₃ II

C₁₃H₂₄O₄ 2-Butylhexylmalonic acid (Levene and Cretcher) 1918, 33, 510 Ethyl 4-methylpentylmalonate (Levene and Allen) 1916, 27, 451

C₁₃ III

C₁₃H₁₆O₅N₂ Sedoheptose osone o-phenylenediamine compound (LA FORGE and HUDSON) 1917, 30, 67 C₁₃H₁₉O₂N 4-Methylpentyl phenylurethane (LEVENE and ALLEN) 1916, 27, 451

C₁₈ IV

C₁₈H₁₂O₄NI₃ Thyroxin acetate, sulfate, ammonium, barium, calcium, potassium, sodium, and silver salts (Kendall and Osterberg) 1919, **40**, 323

C₁₃H₁₆O₅NCl Benzal *d-l*-xylohexosaminic acid lactone hydrochloride (Levene) 1918, 36, 86 C₁₈H₁₉O₆N₂Br d-Mannoaldoheptose

p-bromophenylhydrazone

(LA FORGE) 1916–1917, **28,** 522 d-Mannoketoheptose p-bromophenylhydrazone (LA FORGE) 1916–1917. **28.** 518 C14 Group C₁₄ II C₁₄H₂₆O₄ Ethyl 5-methylhexylmalonate (Levene and Allen) 1916, **27,** 446 C₁₄H₂₈O₂ Ethyl 4-butyloctylate (Levene and Cretcher) 1918, 33, 511 C14 III $C_{14}H_{12}O_2N_2$ d- α -Naphthylmethylhydantoin (West) 1918, 34, 191 dl-α-Naphthylmethylhydantoin (West) 1918, 34, 190 $C_{14}H_{14}O_3N_2$ d- α -Napthylureidopropionic acid (West) 1918, 34, 191 $C_{14}H_{21}O_2N$ n-Heptyl phenylurethane (Levene and Taylor) 1918, 35, 283 5-Methylhexyl phenylurethane (Levene and Allen) 1916, **27,** 446 C15 Group C₁₅ II C₁₅H₂₈O₄ Diethyl dibutylmalonate (Levene and Cretcher) 1918, **33**, 507 Ethyl 6-methylheptylmalonate (Levene and Allen) 1916, **27,** 453 C₁₅ III C₁₅H₂₃O₂N 6-Methylheptyl phenylurethane (Levene and Allen) 1916, 27, 453 C16 Group C16 II C₁₆H₃₀O₄ Ethyl 7-methyloctylmalonate (Levene and Allen) 1916, **27,** 448 C₁₆ III C₁₆H₁₄O₃N₂ Phenylaminomalic acid anil (DAKIN) 1921, **48,** 290 C₁₆H₂₂O₁₀P 1,2-Monoacetone-6-benzoyl phosphoric acid glucoside (Levene and Meyer) 1921, 48, 239 C₁₆H₂₅O₂N 7-Methyloctyl phenylurethane (Levene and Allen) 1916, 27, 448

C16 IV

 $C_{16}H_{16}O_4N_3S$ α -Naphthalenesulfonylhistidine (Baumann and Ingvaldsen) 1918, 35, 275

C₁₇ Group

C17 II

C₁₇H₃₂O₄ Diethyl 2-butylhexylmalonate (Levene and Cret-CHER) 1918, 33, 510

C₁₈ Group

Cis III

C₁₈H₁₇O₄N Cinnamoyltyrosine (Ando) 1919, 38, 9 C₁₈H₂₀O₈N₂ Benzeneazophenol glucuronate (Salant and Bengis) 1916, 27, 408 C₁₈H₂₀O₉N₂ Benzeneazoresorcinol glucuronate (Salant and Bengis) 1916, 27, 407 C₁₈H₂₄O₄N₄ Xylohexosamine osazone (Levene) 1916, 26, 160

C₁₉ Group

C19 III

 $C_{19}\dot{H_{24}}O_5N_4$ Sedoheptose phenylosazone (La Forge and Hudson) 1917, 30, 65 $C_{19}\dot{H_{24}}O_6N_2$ d-Mannoketoheptose phenylosazone (La Forge) 1916–1917, 28, 520

C10 IV

C₁₉H₂₂O₅N₄Br₂ Sedoheptose p-bromophenyl osazone (LA Forge and Hudson) 1917, 30, 66

C20 Group

C20 III

C₂₀H₂₁O₄N Cinnamoyltyrosine ester (Ando) 1919, 38, 8

C21 Group

C₂₁ II

C₂₁H₂₀O₆ Dibenzalanhydrosedoheptose (La Forge and Hudson) 1917, 30, 72

C21 III

C₂₁H₂₂N₄O₈ p-Nitrophenacornithinic acid (Sherwin and Hel-FAND) 1919, **40**, 25

C₂₂ Group

C₂₂ III

C₂₂H₂₁O₃N₃ Phenylaminomalic acid dianilide (Dakin) 1921, **48**, 290

C₂₂ IV

C₂₂H₂₆O₆NCl Dibenzaldextro-d-ribohexosaminic ethyl ester hydrochloride (Levene and Clark)

1921, 46, 30

C26 Group

C₂₆ IV

C₂₆H₂₅O₈N₃S₂ α-Naphthalenesulfonylhistidine naphthalenesulfonate (BAUMANN and INGVALDSEN) 1918, 35, 274

C28 Group

C₂₈ II

C₂₈H₂₈O₇ Tribenzal-α-sedoheptitol (La Forge and Hudson)
1917, 30, 69
Tribenzal-β-sedoheptitol (La Forge and Hudson)
1917, 30, 70

C₃₀ Group

C₈₀ II

C₃₀H₄₈O₂ Mycosterol and digotinin compound (IKEGUCHI)
1919, 40, 177

C. H. O. Hydrovymycosterol (IKEGUGHI)

C₃₀H₄₈O₃ Hydroxymycosterol (Ikeguchi) 1919, **40**, 180

C₃₂ Group

C₃₂ II

C₂₂H₅₀O₃ Mycosterol acetate (IKEGUCHI) 1919, 40, 179

C₈₆ Group

C36 II

C₅₆H₅₄O₆ Hydroxymycosterol acetate (Ikeguchi)

1919, **40,** 181

C₈₆ III

C₃₆H₃₈O₁₀N Pentabenzoylxylohexosamine (Levene)
1916, 26, 159

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C₅₇ Group

C₅₇ III

C₅₇H₁₀₁O₁₈N Acetylcerasin (Levene and West)

1917, 31, 64

C₆₀ Group

C₆₀ III

 $C_{60}H_{108}O_{15}N$ Acetylphrenosin (Levene and West)

1917, 31, 642

C₆₉ Group

C₆₉ III

C₆₉H₁₀₂O₂₈N₄ p-Nitrobenzoylphrenosin (Levene and West) 1917, 31, 647

C₆₆H₁₀₆O₁₂N Benzoylphrenosin (Levene and West)

1917. 31, 644

C₇₅ Group

C75 III

C₇₆H₁₁₁O₁₂N Cinnamoylphrenosin (Levene and West)
1917, 31, 646

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All manuscripts should be copied with triple spacing and $1\frac{1}{4}$ inch margins.

The original typewritten copy should be submitted for publication, not a carbon copy. It should be sent flat, not rolled or folded. All corrections on the manuscript should be clearly written in ink. Manuscripts should be consistent in style; a word should not be abbreviated in one line and written out a few lines below.

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The title, author's name, and laboratory where the work was done should appear as the heading of the paper, followed by the words: Received for publication, —, —. The title, etc., should be written on a separate sheet.

An abbreviated form of the title, not exceeding thirty-six letters in length, to be used as a running headline, should be given, also on a separate sheet.

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Major headings, such as introduction, experimental, discussion, summary, conclusion, bibliography, also table in table headings, are printed in small capitals, and therefore should be underlined twice.

Minor headings, whether center or side, and descriptive matter in table headings, are printed in italics, and therefore underlined once in the manuscript. Capitalize the nouns, adjectives, pronouns, verbs, Cc., Gm., Per Cent, etc.

Dates are not underlined, except when they occur in an italicized heading.

The form Sept. 15, 1915, is preferred to IX-15-15

TEXT.

Begin every experiment, table, or quotation of over five lines on a new sheet. When the text is resumed start with another fresh sheet. This method brings the material of the entire manuscript (except foot-notes, etc.) in sequence, but permits, without mutilation of the manuscript, the separation in the Printer's office of tables, etc., which are set up separately.

Number the sheets consecutively throughout. Mark in ink the place for each illustration.

TABLES.

The form for table headings has already been given under "HEADINGS." Table column headings are written in small letters and followed by periods (see Table I).

Words like gm., cc., $per\ cent$, ${}^{\circ}C.$, etc., referring to an entire column in a table, are written in small letters at the top of the column, and underlined once.

In tables use ditto marks for words when possible, but not for figures.

TABLE I.

Changes in the Blood of Rabbit 1 after Hemorrhage.

Date.	Amount of blood re- moved.	Hemo- globin.	Red blood corpuscles.	Remarks.
1915	cc.	per cent		
Sept. 13	10	89	5, 160, 000	Weight 1,605 gm.
" 14	10	68	2, 870, 000	No nucleated red cells.
" 15	10	75	3, 990, 000	· · · · · · · · · · · · · · · · · · ·
" 16	10	58	3, 070, 000	66 66 66

FOOT-NOTES.

Foot-Notes to Text.—Typewrite all foot-notes together at the end of the paper and number them consecutively from 1 up, to correspond with the reference numbers in the text.

Number all foot-note references consecutively throughout the paper: i.e., if the foot-note references on the first page are 1, 2, 3, those on the second page should be 4, 5, 6, etc. Superior numerals (located as 1, 2, 3) should be used in the text to indicate foot-notes.

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References are usually printed in the form of foot-notes, and as such are numbered and located with the other foot-notes. If a given article is referred to more than once, the foot-note is printed only with the first reference. The number of the footnote is repeated at subsequent points in the text where the same article is referred to. Do not use loc. cit.

If the author prefers, the references may be printed in a bibliography at the end of the paper. In this case one of two systems is usually adopted: (a) The references in the bibliography are arranged and numbered in the order of their appearance in the text and independently of the foot-notes. (b) They are arranged alphabetically according to the names of the authors. In this case the text reference is the name of the author followed by the vear of the publication referred to. If more than one article by the same author in a given year is referred to, the letters a, b, c, etc., may be used to differentiate them. This system is convenient because, among other reasons, of the ease with which new references can be inserted in the manuscript, and of the readiness with which a given reference can be located in the printed bibliography.

Text references to a bibliography are indicated by numbers in parentheses instead of the superior numbers used for footnotes. Thus "Ehrlich1" indicates a foot-note; but "Ehrlich (1)" or "Ehrlich (1910, a)" or "(Ehrlich, 1910, a)" indicates a reference in the bibliography. Two separate series of numbers can thus be used in the same text to indicate respectively foot-notes and references in the bibliography.

The form for references is indicated by the following example,

the order of data being: author, initials, journal (underlined), year, volume (small Roman numerals), and page:

³ Fisher, E., Ber. chem. Ges., 1889, xxii, 87.

The abbreviations used by the *Journal* for the most commonly cited publications are listed below.

Am. Chem. J. Am. J. Physiol. Ann. chim. phys. Ann. Chem. Arch. ges. Physiol. Arch. exp. Path. u. Pharmakol. Arch. Int. Med. [Arkansas] Agric. Exp. Station, Bull. [5, 1915]. Ber. chem. Ges. Berl. klin. Woch. Biochem, J. Biochem. Z. Bull. Hyg. Lab., U. S. P. H. Bull. Soc. chim. Carnegie Inst. Washington, Pub. No. [156, 1911]. Chem. Abstr. Chem. Zentr. Compt. rend. Acad.

Ergebn, allg. Path, u, path. Anat. Gazz. chim. ital. J. Agric. Research. J. Am. Chem. Soc. J. Am. Med. Assn. J. Biol. Chem. J. Chem. Soc. J. Exp. Med. J. prakt. Chem. J. Ind. and Eng. Chem. J. Physiol. J. Russ. Phys. Chem. Soc. Monatsh. Chem. Proc. Roy. Soc. London, Series [B]. Proc. Soc. Exp. Biol, and Med. Rec. trav. chim. Pays-Bas. U. S. Dept. of [Agric.], Bureau of [Plant Industry], Bull. [31, 1914]. Z. physik. Chem.

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Z. physiol. Chem.

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Typewrite explanations of the figures, whether for plates or text-figures, and number them to correspond with the figures to which they refer. The Bibliography precedes the Explanation of Figures.

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Gram = gm.
Cubic centimeter = cc.
Centimeter = cm.
Millimeter = mm.
Milligram = mg.
Kilogram = kilo or kg.
Tenth normal = 0.1 N
Tenth molecular = 0.1 M

10 millimolecular = 10.0 mm per cent (without a period). a.m., p.m. (lower case). In both large and small type write 30 cc., 20 mg., 20 gm. Always write 0.25; i.e., with a zero before the decimal point.

Use the form 193-194.5°, placing the degree mark at the end only.

Use $[\alpha]_{\rm D}^{20}$ for specific rotation (for 20° and sodium light). The values for $[\alpha]$ are best expressed in the following way:

$$\left[\alpha\right]_{D}^{a} = \frac{-0.25^{\circ} \times 2.1662}{1 \times 0.1505} = -3.58^{\circ}$$

For normal and molecular solutions the expressions 2.5 N and 0.5 M are preferred to $2\frac{1}{2}$ N and $\frac{M}{2}$. In exceptional cases, however, as 3/16 M, the fractional form is more convenient.

Hydrated salts should be written as CuSO_{4.5}H₂O.

Small numbers in the text are usually written out, large numbers expressed in numerals; thus seven, but 250.

In numbers of four figures or over use commas; as 1,000, 10,000

SPELLING.

Words like hemmorrhage, anesthetic, etc., are spelled with e (not ae).

Use f instead of ph for sulfur and sulfur derivatives.

Words serving as special names of definite objects, such as, Experiment 8, Table I, Rabbit 1, are written with capital letters.

NOMENCLATURE.

The usage of the American Chemical Society is followed. The following rules cover most of the terms used in this *Journal*.

Hydroxyl derivatives of hydrocarbons are to be given names

ending in -ol; as glycerol, cholesterol, pinacol (not pinacone). This applies also to alcohols of the sugar series; as mannitol, heptitol, etc.

Compounds which are not alcohols but have received names ending in -ol should be spelled -ole; as anisole, indole. (German hydrocarbon names, as Benzol, Toluol, etc., are to be written benezene, toluene, etc.)

Hydroxy- and not oxy- should be used in designating a hydroxyl compound; as hydroxyacetic acid, CH₂(OH)CO₂H, (not oxy-acetic acid).

As regards the endings -in and -ine, the latter should always be used for basic substances, and for them only; -in is used for glycerides, glucosides, bitter principles, proteins, etc.; thus anikine, tyrosine, purine, morphine; but gelatin, palmitin, amygdalin, albumin, protein (not proteid).

When a substituent is one of the groups NH₂,NHR,NR₂,NH, or NR, its name should end in -ino; thus NH₂CH₂CH₂CO₂H, β -aminopropionic acid (not amidopropionic acid); C₆H₅NHCH₂CO₂H, β -amilinopropionic acid; CH₃CH₂NH₂CO₂H, α -aminopropionic acid.

The term ether must not be used for compounds which are properly called esters. Esters and metallic salts should be designated in the form, diethyl phthalate, methyl hydrogen succinate, sodium propionate, etc. (not as the diethyl ester of phthalic acid, the monomethyl ester of succinic acid, or the sodium salt of propionic acid).

Acid radicals, such as C₆H₅CO, must have names ending in -yl, and their compounds with halogens, as C₆H₅COCl, are to be termed chlorides, bromides, etc. Thus, benzoyl chloride (not chloride of benzoic acid or benzoic acid chloride).

The connective o is to be used in such combining forms as amino-, bromo-, chloro-, cyano-, and iodo-; thus bromobenzene, chloroacetic, nitroaniline. A few exceptions to this rule are permitted on account of long established usage; as acetamide, cyanamide.

Substances containing the group SO_3H should, if possible, be called sulfonic acids; failing this, sulfo compounds; thus phenyl-sulfonic acid, $C_6H_8SO_3H$, and sulfobenzoic acid, $HO_2CC_6H_4SO_3H$.

Salts of organic bases with hydrochloric acid should be called hydrochlorides (not hydrochlorates or chlorhydrates).

Salts of chloroplatinic acid are called chloroplatinates (not platinichlorides), and the formulas should be written in the form (CH₃NH₂)₂H₂PtCl₆. Salts of thiocyanic acid, HCNS, should be called thiocyanates. Use sodium thiosulfate for Na₂S₂O₃.

The word hydroxide should be used for a compound with OH, and hydrate for a compound with H₂O; thus, chlorine hydrate, Cl₂.10H₂O; barium hydroxide, Ba(OH)₂.

Greek letters should be indicated by Gk. on the margin of the manuscript.

The following letters are italicized and should be underlined: o-, m-, p-, d-, and l-, for ortho, meta, para, dextro, and levo.

Use dl- (not r-) for racemic.

CHARTS.

Ink.—Charts should be drawn with black ink. Blue-black ink and typewriting do not make good reproductions.

Paper.—Charts should be drawn on paper with a smooth surface. The cross-barred paper on page 437 is satisfactory for this purpose, as the blue lines do not reproduce. When it is desired to reproduce the finer lines, the blue lines may be inked in or the green-lined coordinate paper similar to the sample on page 11 may be used. The green lines reproduce and appear as black lines.

Reduction.—Charts should be drawn large enough to stand a reduction of one-half or one-third. The amount of reduction must be taken into consideration when the chart is drawn, and the lines must be heavy enough, and the letters large enough to make clear reproductions when reduced. Letters and numbers should, when reduced, be not less than 2 mm. in height. The outside measurements for charts when reduced, including the legend, are $4 \times 6\frac{1}{2}$ inches. Authors must determine whether the chart is to be printed the long or the short way on the page.

Margin.—A margin of at least half an inch should be left around the chart.

The sample charts show the original size of the chart and the chart reduced to fit the page of the *Journal*.

¹ Higgins' waterproof India ink.

DRAWINGS.

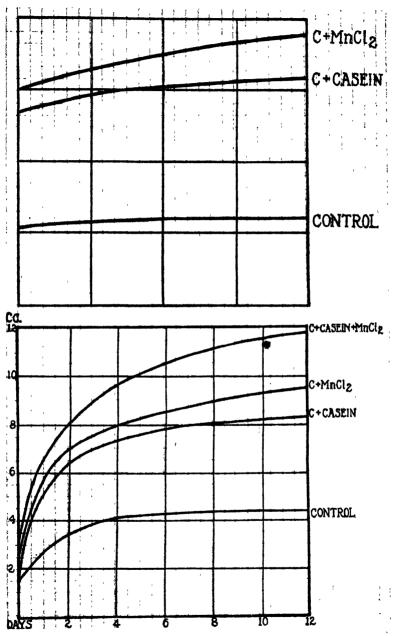
The above remarks concerning ink, paper, reduction, and margin apply also to drawings.

PHOTOGRAPHS.

Photographs should be carefully trimmed and mounted. If two or more are to appear on the same page they should be mounted together, and the size to which they are to be reduced must be considered.

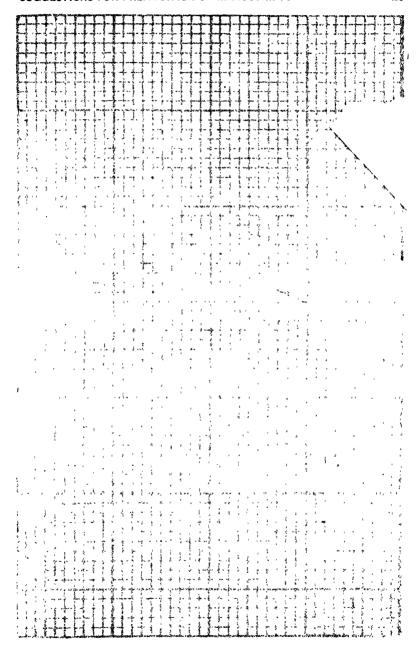
Authors who have not the facilities for preparing photographs as described above should send them untrimmed and unmounted. The part to be reproduced should be marked either on the front or the back of the photograph, without scarring the surface. The top should always be indicated if there is a possibility of doubt as to which way the figure should be placed.

Figures should be numbered consecutively, in the order in which they are referred to in the text.



The lower chart shows the effect of reducing the upper chart to twothirds of the original scale. The letters below are 2 mm. high.

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